

LASSEN VOLCANIC NATIONAL PARK
Mineral, California

ANNUAL FOREST INSECT REPORT - 1952

General Summary of the Situation.

The most concise statement of the 1952 infestation is included in the Appraisal Survey of Forest Insect Conditions in Lassen Volcanic National Park, September 1952, supervised and reported by Dr. Ralph C. Hall, Entomologist, Forest Insect Laboratory, Berkeley, California. "The 1952 infestation is characterized by heavy epidemic losses in Jeffrey pine caused by the Jeffrey pine beetle, Dendroctonus jeffreyi, and light epidemic losses in ponderosa pine caused by the western pine beetle, Dendroctonus brevicornis. Losses in Jeffrey pine appear to be heavier than at any time during the past ten years and represent a considerable increase over last year."

Recognizing the seriousness of the situation during the 1951 season and discouraged by extremely limited control funds, we contemplated the 1952 season with a feeling of frustration. Our concern deepened when the limited accomplishments of the spring control season were totaled. In spite of the epidemic infestation in all units and the apparent impossibility of adequate control action, a chain of favorable circumstances developed during the summer with such effective results and timing that it appears that the action in the 1952 season may have been the most effective and complete in several years. As a result of the wholehearted cooperation of everyone concerned, accurate field surveys were completed, additional control funds requested and allotted, invitations were prepared for a salvage sale of infested logs and a bid let, and operations were launched. Extremely favorable weather permitted late operations although the warm weather did result in the emergence of a second brood of adults. This development may work to our advantage by causing a heavy winter kill of adults.

On July 30, Messrs. J. W. Bongberg, Ralph C. Hall, and C. B. Eaton conferred with the Chief Ranger and Northern District Ranger and made a preliminary survey of the extent and seriousness of the insect infestation. Plans were made for an early appraisal survey by a Bureau of Entomology crew. It was agreed that it would be highly desirable to initiate control action early in the fall through the removal of infested trees by salvage methods in addition to direct control.

Dr. Hall completed the Appraisal Survey and a copy of his report reached this area on September 15. It confirmed the preliminary surveys which had been the basis for our invitation for bids. It was an excellent survey conducted under very difficult conditions because the 1952 attacked trees had not faded and it was necessary to stem check for pitch tubes.

Dr. Hall recommended that all currently infested trees should be spotted and felled in the fall of 1952; accessible trees should be salvage logged during the fall to the fullest extent possible; all other infested trees should be treated by fall-peel-burn method before May 1, 1953 in the Butte Lake Unit and before June 1 in the Manzanita Lake-Lost Creek Units, and that green tops and slash left in the woods this fall which may attract Ips should be checked late in the spring and be treated chemically if necessary.

Other factors of accomplishment were discussed on the ground and agreement reached. Dr. Hall's survey listed 115 infested trees on areas checked and an estimated total of 225 infested trees on all units.

On September 17 an award of bid was made to Bill Hanan Logging Company for the salvage removal sale of insect infested trees. The order to commence was dated September 18. The invitations and award were as follows:

Schedule A, Manzanita Lake Unit, 80 MM, \$11 per M, providing for flushing of stumps, complete cleanup of trees removed, but all felling to be done by NPS.

Schedule B, Lost Creek Unit, 110 MM, \$9.50 per M, lop and scatter limbs.

Schedule C, Butte Lake Unit, 50 MM, \$8 per M, lop and scatter limbs.

Although the salvage logging progressed after the heavy travel season, every effort was made to avoid adverse public reaction. Special signs covered the logging company sign on the truck doors and proclaimed, "Insect-infested logs - salvage removal." Checking station personnel were patient and accurate in their explanations to interested visitors.

Spring work continued during the period May 15-June 15. Fall work began September 15 and terminated November 22. On November 12 twenty inches of snow fell in the Lost Creek area. To complete the treatment of 15 trees in that area, crews commuted by snow weasel until the job was completed. The snow was too deep to complete salvage removal of felled trees in the Butte Lake Unit.

Direct control work was completed in the Manzanita Lake Unit but snow prevented the removal of about five loads of logs under the sale contract. These will be picked up before May 1, 1953.

In the Butte Lake Unit there was considerable infestation in Jeffrey pine reproduction, 4-8 inches DBH. Most of the infestation is in clumps rather than individual trees.

There appears to be a noticeable reduction in the infestation of Ips emarginatus in the Manzanita Lake Unit as compared to other seasons. This may be due to spraying windthrows in that area last spring. The practice will be continued.

It is estimated that 40% of the trees in the Butte Lake Campground are infested with Valens. This situation should receive attention in the spring of 1953. No doubt Forest Insect Laboratory personnel can offer a workable solution.

Summary of Control Work.

During the 1952 season, 243 trees were felled. Of this total, 61 were removed by salvage sale; 24 have been felled and will be salvaged next spring; 155 were treated by fall-peel-burn method; and 3 are on the ground to be treated. Included in the total were 20 pole sized trees treated that were not included in the calculation of direct control costs per tree in the Butte Lake Unit.

Last season 73 trees were felled and 68 treated. 47 trees were treated in 1950.

The average cost per tree was \$22.80 compared to \$27 in 1951. It was expected that this figure would be even lower by use of salvage removal but an unexpectedly high percentage of cull trees in the Manzanita Lake Unit increased the amount of direct control work necessary and necessitated complete cleanup. An adverse factor in the Lost Creek Unit was the relatively small number of trees that could be salvaged because of terrain. Because this was our first experience with salvage removal, there was constant endeavor, and with good results, not to permit the removal of any log or tree that would damage reproduction or other natural features.

In order to adequately protect park values, very specific conditions were included in the stipulations governing the removal of infested trees. For obvious reasons it was specified that all loading would be by haul-truck mounted cross-haul assembly (self-loading), without ground skidding into cold decks or by any type of yarding. In addition, loading and hauling equipment was subject to advance inspection before award of bid.

The contractor accomplished his work in a thoroughly satisfactory manner. Logs were picked up in many locations that appeared almost impossible of access. He was most anxious to do a better than expected job to demonstrate the practicability of this type of control which he uses on adjacent lands. The operation was considered a real success and there is general agreement that it should be continued.

Available labor in sufficient numbers and of acceptable standards was very limited. To take every advantage of good weather and limited time, most men worked on a 7-day week schedule. If this extra work with premium pay had not been necessary the unit costs would have been even lower.

An encouraging development in the Manzanita Lake Unit saved some money. With the limited funds available for work last fall, several trees were felled but could not be treated nor removed. Many did not require treatment because larvae^{and} pupae were winter killed.

A considerable savings in direct control treatment resulted in the use of a Jeep pickup and slipon unit. Control fires could be extinguished quickly and much more cheaply than with backpacks, patrol, or dirt.

Another favorable factor developed when the Lassen National Forest completed a salvage removal sale of all accessible infested trees on Forest Service land adjacent to the Lost Creek Control Unit in the park. This has been an area of high infestation and appeared to offset practically all the control accomplished on adjacent park land. Little salvage removal action has been taken on Forest Service land adjacent to the Manzanita Lake Unit.

Control Costs by Units and Seasons

Spring 1952

Manzanita Lake Unit - Approx. 600 acres treated - 30 trees - \$760
Lost Creek Unit - Approx. 10 acres treated - 2 trees - \$40
Total - - - - - 32 trees - - - - - \$800
Contributed Ranger time - - - - - 8 days
Recap. all units, spring season - - - - - 32 trees - - \$800

Fall 1952

Manzanita Lake Unit - Approx. 2000 acres treated - 53 trees - \$1,550
34 trees removed by salvage sale - return to Govt. from sale \$ 330
Contributed Ranger time - - 16 man days

Lost Creek Unit - Approx. 2800 acres treated - 80 trees - - - \$2,134
27 trees removed by salvage sale - return to Govt. from sale \$ 770
Ranger time contributed - - 6 man days

Butte Lake Unit - Approx. 1200 acres treated - 49 trees treated - \$1,465
21 trees on ground for salvage sale in spring
Contributed ranger time - - 2 man days

Recapitulation - All Units - Fall Season

202 trees	\$4,150.00	
Ave. per tree	22.80	(Does not include 20 pole size trees treated)
Maximum per tree	29.50	Manzanita Lake Unit
Minimum per tree	16.10	Butte Lake Unit (Does not include 20 pole size trees treated)

General Outlook for the 1953 Season

In spite of the vigorous and apparently effective control action taken in the fall of 1952, there is every reason to believe that the infestation can and probably will continue at about the same level at least during the 1953 season. This is supported by late season spotting. In the Lost Creek Unit 28 trees have been spotted for removal or treatment next spring. Last year only 15 trees were spotted in this area but the survey was not as complete. Twenty trees have been spotted in the Butte Lake Unit compared to 16 trees last year with the same type of field survey.

The infestation is certainly not under control. It is strongly recommended that the control work should continue in 1953 at the same level as in 1952. The following action is suggested:

1. Begin spring work not later than April 15 regardless of expected disagreeable weather conditions, transportation difficulties, and other factors which will tend to increase costs. Effectiveness will be greatly increased.

2. Remove all possible infested trees under present sale contract before May 15 and re-advertise for another sale for fall.

3. Use a two man crew during the summer for spotting and scattered control in inaccessible locations.

4. Assist ground spotting by air spotting faded trees in late June. *what good will this do? MATE*

In all three units it is estimated that a total of 107 trees should be removed next spring. About 30% can be removed by salvage logging. To accomplish the spring work will require about \$2200. An unencumbered balance of \$700 is available. An additional allotment of \$1,500 will be required and this constitutes our request for this amount.

For the 1954 fiscal year, estimates based on all available information indicate that \$5,000 will be required for insect control work. \$3500 should be budgeted for work in the fall of 1953, and \$1500 for the spring of 1954.

In Mr. Eaton's letter of September 11, 1952 to the Regional Forester, he proposed consideration of contracting control work next spring. This has merit and ultimately may be possible, but we are reluctant to give it favorable consideration at this time. The work involves operations that must be accomplished with utmost care to protect natural features. The character of labor available now requires a tremendous amount of supervision. Because of the scattered nature of the operation and the difficulty of providing supervision, it appears best to plan on continuing the effective methods used this fall.

Sgd, FRED T. JOHNSTON

Fred T. Johnston
Superintendent